



15619D.ST25.txt
SEQUENCE LISTING

<110> ~~Rockholm, David C~~
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<120> PLANT VDE GENES AND METHODS RELATED THERETO

<130> 15619/03/US

<140> US 09/075,375

<141> 1998-05-07

<150> US 08/747,574

<151> 1996-11-07

<150> PCT/US96/18291

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<150> US 60/023,502

<151> 1996-08-06

<150> US 60/006,315

<151> 1995-11-07

<160> 9

<170> PatentIn version 3.2

<210> 1

<211> 1981

<212> DNA

<213> Lactuca sativa

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<210> 2
<211> 473
<212> PRT
<213> Lactuca sativa

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Asn Leu Tyr Ala Arg Ser Pro Cys Asn Glu Arg Phe His Arg Ser Gly
20      25      30
```

```
Gln Pro Pro Thr Asn Ile Ile Met Met Lys Ile Arg Ser Asn Asn Gly
35      40      45
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50      55      60
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Ser Asp Ser Ser His Cys Lys Asp Lys Ser Gln Ile Cys Ser Ile Asp
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 Thr Ser Phe Glu Glu Ile Gln Arg Phe Asp Leu Lys Arg Gly Met Thr
 85 90 95
 Leu Ile Leu Glu Lys Gln Trp Arg Gln Phe Ile Gln Leu Ala Ile Val
 100 105 110
 Leu Val Cys Thr Phe Val Ile Val Pro Arg Val Asp Ala Val Asp Ala
 115 120 125
 Leu Lys Thr Cys Ala Cys Leu Leu Lys Glu Cys Arg Ile Glu Leu Ala
 130 135 140
 Lys Cys Ile Ala Asn Pro Ser Cys Ala Ala Asn Val Ala Cys Leu Gln
 145 150 155 160
 Thr Cys Asn Asn Arg Pro Asp Glu Thr Glu Cys Gln Ile Lys Cys Gly
 165 170 175
 Asp Leu Phe Glu Asn Ser Val Val Asp Gln Phe Asn Glu Cys Ala Val
 180 185 190
 Ser Arg Lys Lys Cys Val Pro Arg Lys Ser Asp Val Gly Glu Phe Pro
 195 200 205
 Val Pro Asp Arg Asn Ala Val Val Gln Asn Phe Asn Met Lys Asp Phe
 210 215 220
 Ser Gly Lys Trp Tyr Ile Thr Ser Gly Leu Asn Pro Thr Phe Asp Ala
 225 230 235 240
 Phe Asp Cys Gln Leu His Glu Phe His Met Glu Asn Asp Lys Leu Val
 245 250 255
 Gly Asn Leu Thr Trp Arg Ile Lys Thr Leu Asp Gly Gly Phe Phe Thr
 260 265 270
 Arg Ser Ala Val Gln Thr Phe Val Gln Asp Pro Asp Leu Pro Gly Ala
 275 280 285
 Leu Tyr Asn His Asp Asn Glu Phe Leu His Tyr Gln Asp Asp Trp Tyr
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 Ile Leu Ser Ser Gln Ile Glu Asn Lys Pro Asp Asp Tyr Ile Phe Val
 305 310 315 320

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Tyr Tyr Arg Gly Arg Asn Asp Ala Trp Asp Gly Tyr Gly Gly Ser Val
 325 330 335

Ile Tyr Thr Arg Ser Pro Thr Leu Pro Glu Ser Ile Ile Pro Asn Leu
 340 345 350

Gln Lys Ala Ala Lys Ser Val Gly Arg Asp Phe Asn Asn Phe Ile Thr
 355 360 365

Thr Asp Asn Ser Cys Gly Pro Glu Pro Pro Leu Val Glu Arg Leu Glu
 370 375 380

Lys Thr Ala Glu Glu Gly Glu Lys Leu Leu Ile Lys Glu Ala Val Glu
 385 390 395 400

Ile Glu Glu Glu Val Glu Lys Glu Val Glu Lys Val Arg Asp Thr Glu
 405 410 415

Met Thr Leu Phe Gln Arg Leu Leu Glu Gly Phe Lys Glu Leu Gln Gln
 420 425 430

Asp Glu Glu Asn Phe Val Arg Glu Leu Ser Lys Glu Glu Lys Glu Ile
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 <212> DNA
 <213> Nicotiana tabacum

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<211> 477
<212> PRT
<213> Nicotiana tabacum

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```
Lys Tyr Tyr Val Gly Ser Lys Leu Pro Gly His Lys Arg Phe Ser Trp
20           25           30
```

```
Gly Trp Glu Asp Tyr Phe Gly Ser Ile Val Val Ala Lys Ile Cys Ser
35           40           45
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Ser Arg Arg Ile Pro Arg Tyr Phe Arg Lys Ser Pro Arg Ile Cys Cys
50           55           60
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15619D.ST25.txt

Gly Leu Asp Ser Arg Gly Leu Gln Leu Phe Ser His Gly Lys His Asn
 65 70 75 80
 Leu Ser Pro Ala His Ser Ile Asn Gln Asn Val Pro Lys Gly Asn Ser
 85 90 95
 Gly Cys Lys Phe Pro Lys Asp Val Ala Leu Met Val Trp Glu Lys Trp
 100 105 110
 Gly Gln Phe Ala Lys Thr Ala Ile Val Ala Ile Phe Ile Leu Ser Val
 115 120 125
 Ala Ser Lys Ala Asp Ala Val Asp Ala Leu Lys Thr Cys Thr Cys Leu
 130 135 140
 Leu Lys Glu Cys Arg Leu Glu Leu Ala Lys Cys Ile Ser Asn Pro Ala
 145 150 155 160
 Cys Ala Ala Asn Val Ala Cys Leu Gln Thr Cys Asn Asn Arg Pro Asp
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 Glu Thr Glu Cys Gln Ile Lys Cys Gly Asp Leu Phe Glu Asn Ser Val
 180 185 190
 Val Asp Glu Phe Asn Glu Cys Ala Val Ser Arg Lys Lys Cys Val Pro
 195 200 205
 Arg Lys Ser Asp Val Gly Asp Phe Pro Val Pro Asp Pro Ser Val Leu
 210 215 220
 Val Gln Lys Phe Asp Met Lys Asp Phe Ser Gly Lys Trp Phe Ile Thr
 225 230 235 240
 Arg Gly Leu Asn Pro Thr Phe Asp Ala Phe Asp Cys Gln Leu His Glu
 245 250 255
 Phe His Thr Glu Glu Asn Lys Leu Val Gly Asn Leu Ser Trp Arg Ile
 260 265 270
 Arg Thr Pro Asp Gly Gly Phe Phe Thr Arg Ser Ala Val Gln Lys Phe
 275 280 285
 Val Gln Asp Pro Lys Tyr Pro Gly Ile Leu Tyr Asn His Asp Asn Glu
 290 295 300
 Tyr Leu Leu Tyr Gln Asp Asp Trp Tyr Ile Leu Ser Ser Lys Val Glu
 305 310 315 320

15619D.ST25.txt

Asn Ser Pro Glu Asp Tyr Ile Phe Val Tyr Tyr Lys Gly Arg Asn Asp
325 330 335

Ala Trp Asp Gly Tyr Gly Gly Ser Val Leu Tyr Thr Arg Ser Ala Val
340 345 350

Leu Pro Glu Ser Ile Ile Pro Glu Leu Gln Thr Ala Ala Gln Lys Val
355 360 365

Gly Arg Asp Phe Asn Thr Phe Ile Lys Thr Asp Asn Thr Cys Gly Pro
370 375 380

Glu Pro Pro Leu Val Glu Arg Leu Glu Lys Lys Val Glu Glu Gly Glu
385 390 395 400

Arg Thr Ile Ile Lys Glu Val Glu Glu Ile Glu Glu Glu Val Glu Lys
405 410 415

Val Arg Asp Lys Glu Val Thr Leu Phe Ser Lys Leu Phe Glu Gly Phe
420 425 430

Lys Glu Leu Gln Arg Asp Glu Glu Asn Phe Leu Arg Glu Leu Ser Lys
435 440 445

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Glu Lys Leu Phe Gly Arg Ala Leu Pro Ile Arg Lys Leu
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15619D.ST25.txt

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<210> 6
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 <212> PRT
 <213> Arabidopsis thaliana

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 35 40 45

Ser Ala Asp Leu Arg Thr Thr Gly Gly Arg Ser Ser Arg Pro Leu Ser
 50 55 60

Ala Phe Arg Ser Gly Phe Ser Lys Gly Ile Phe Asp Ile Val Pro Leu
 65 70 75 80

15619D.ST25.txt

Pro Ser Lys Asn Glu Leu Lys Glu Leu Thr Ala Pro Leu Leu Leu Lys
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 100 105 110
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 115 120 125
 Ile Glu Leu Ala Lys Cys Ile Ala Asn Pro Ala Cys Ala Ala Asn Val
 130 135 140
 Ala Cys Leu Gln Thr Cys Asn Asn Arg Pro Asp Glu Thr Glu Cys Gln
 145 150 155 160
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 165 170 175
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 Gly Glu Phe Pro Ala Pro Asp Pro Ser Val Leu Val Gln Asn Phe Asn
 195 200 205
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 Asp Asn Lys Leu Val Gly Asn Ile Ser Trp Arg Ile Lys Thr Leu Asp
 245 250 255
 Ser Gly Phe Phe Thr Arg Ser Ala Val Gln Lys Phe Val Gln Asp Pro
 260 265 270
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 275 280 285
 Gln Asp Asp Trp Tyr Ile Leu Ser Ser Lys Ile Glu Asn Lys Pro Glu
 290 295 300
 Asp Tyr Ile Phe Val Tyr Tyr Arg Gly Arg Asn Asp Ala Trp Asp Gly
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 Tyr Gly Gly Ala Val Val Tyr Thr Arg Ser Ser Val Leu Pro Asn Ser
 325 330 335

15619D.ST25.txt

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355 360 365

Val Glu Arg Ile Glu Lys Thr Val Glu Glu Gly Glu Arg Ile Ile Val
370 375 380

Lys Glu Val Glu Glu Ile Glu Glu Glu Val Glu Lys Glu Val Glu Lys
385 390 395 400

Val Gly Arg Thr Glu Met Thr Leu Phe Gln Arg Leu Ala Glu Gly Phe
405 410 415

Asn Glu Leu Lys Gln Asp Glu Glu Asn Phe Val Arg Glu Leu Ser Lys
420 425 430

Glu Glu Met Glu Phe Leu Asp Glu Ile Lys Met Glu Ala Ser Glu Val
435 440 445

Glu Lys Leu Phe Gly Lys Ala Leu Pro Ile Arg Lys Val Arg
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<213> Artificial

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<223> synthetic peptide derived from the N-terminus of lettuce vde

<220>
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<223> Synthetic peptide derived from the N-terminus of lettuce vde

<400> 7

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<213> Artificial

<220>
<223> synthetic oligonucleotide

<400> 8

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